

Project Broadsword

The Portal to the World of Information

PROGRAM OVERVIEW

A Data Access and Security Approach

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OUTLINE

Background

Broadsword

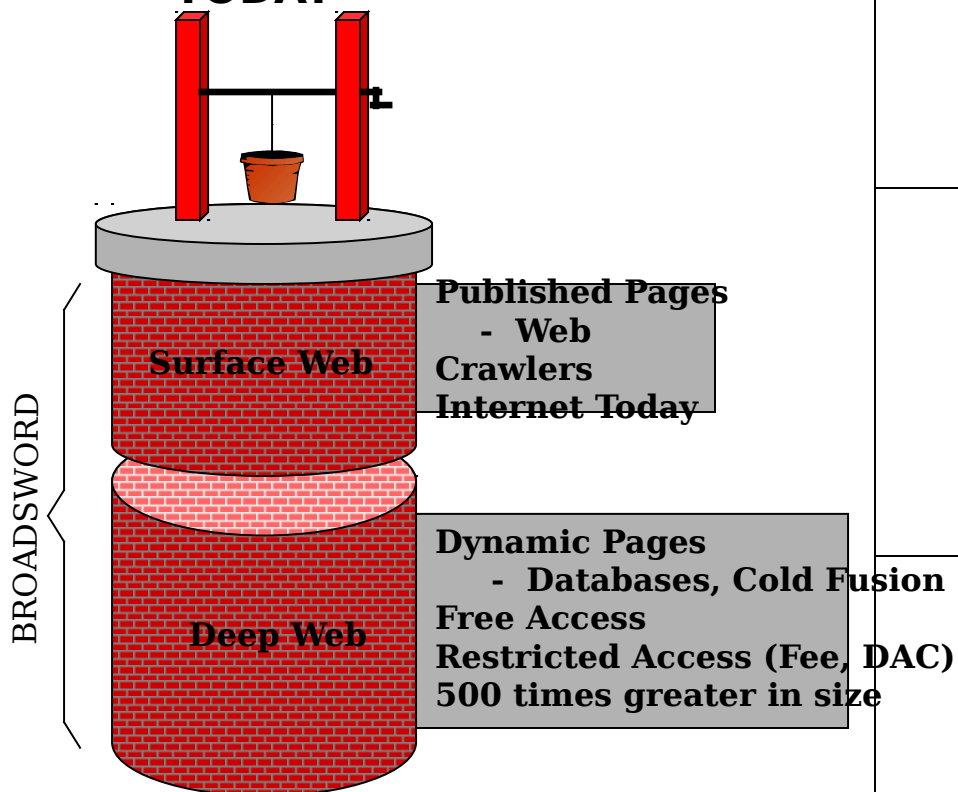
- The Architecture**
- The Client**

Status/Schedule

Summary

BACKGROUND

INTERNET/INTELINK TODAY



OBJECTIVE

To provide a single, secure architecture enabling access to information that exists anywhere.

CHALLENGES

Diverse Storage Mechanisms
Varying Product Delivery Strategies
Different File Formats
Differing Security Policies
Multiple Access Methodologies

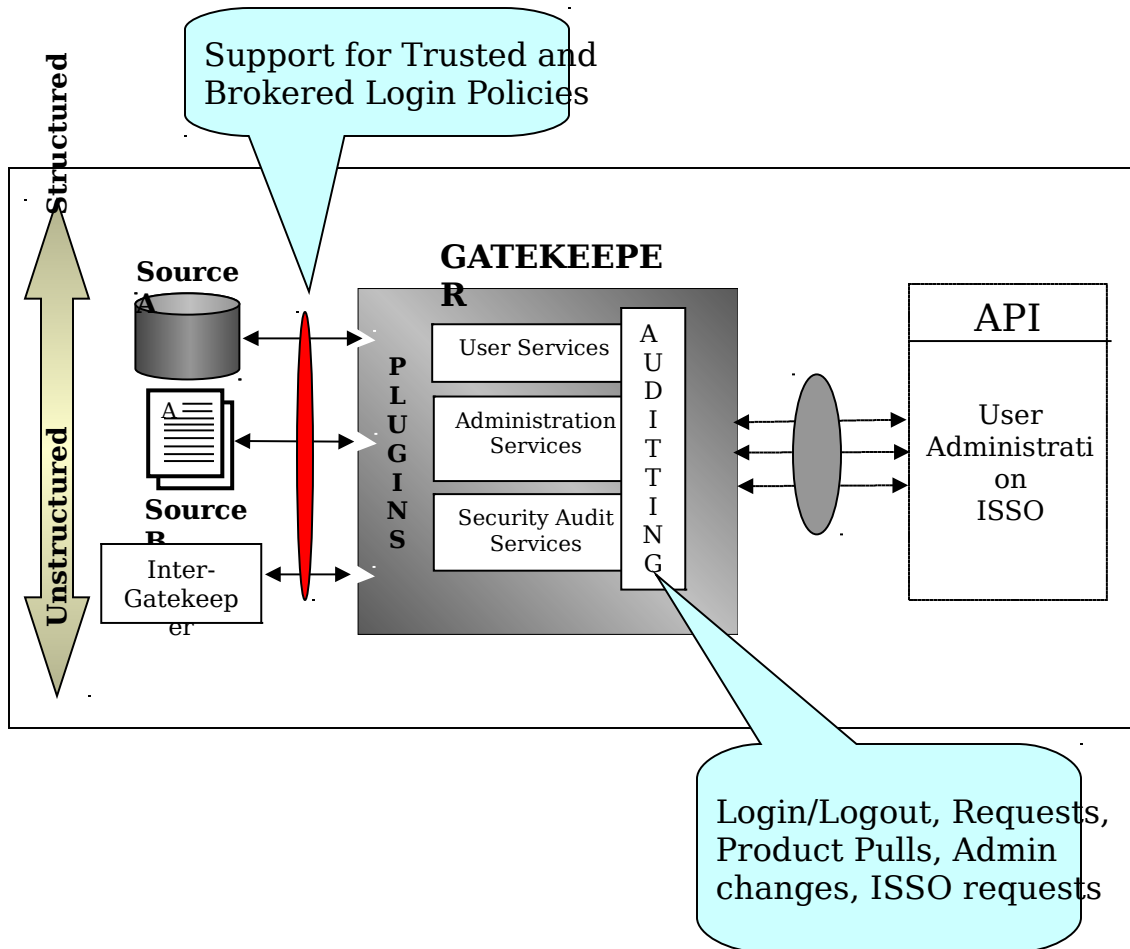
SPONSORSHIP

DIA (GIDP) - JIVA
AF Intel - AFDI
ACC - PCI3
AC2ISR - C2Link/Broadsword
NIMA - IPL

BROADSWORD COMPONENTS

Component Name	Purpose
Gatekeeper	Provides single interface to various sources for query, retrieval, and product request/delivery. It also provides a single point in which users are authenticated and all actions audited.
Keymaster	Acts as a global map manager allowing for gatekeepers and their sources to become accessible to others who register with the same Keymaster.
Client	User interface which implements the Client/Gatekeeper API and provides ISSO, System Administrator and General Searching Capabilities.

GATEKEEPER ARCHITECTURE



- Single API to access multiple sources of information
 - Both structured and **unstructured**
 - Retrieve elements, reports and products
 - Access to Imagery, Video, Audio and Text Products
- Meets DCID 1/16 or 6/3 Requirements for System High Mode
- Thin Layer of Code
 - Audit all user requests and accesses
 - Route request to appropriate sources
 - Join all responses
- Interface to specific sources

PLUG-INS

- Identifies to the Gatekeeper what services are provided by the source, e.g., keyword, geographic and query
- Identifies what sources are available to the user and what elements are queriable/returnable.
- Converts the API request format to the specific interface requirements to include translations and transformations
- Blocks unsupported query elements (e.g., Image ID in MIDB)

ENFORCES POLICY
PROTECTS SOURCE

AVAILABLE PLUG-INS

Automated Message Handling System (AMHS)

Air Operations Data Base (AODB)

Commercial Satellite Image Library (CSIL)

Demand Driven Direct Digital Dissemination (5D)

Image Exploitation Support System (IESS)

Intelink Hydra

Intelink MetaSearch

Imagery Product Library (IPL 1.0/2.1/2.5)

Military Equipment Parametric and Engineering Data Base (MEPD)

Modernized Integrated Data Base (MIDB)

Space DB

Air Force Weather

Infosphere Management (ISM)

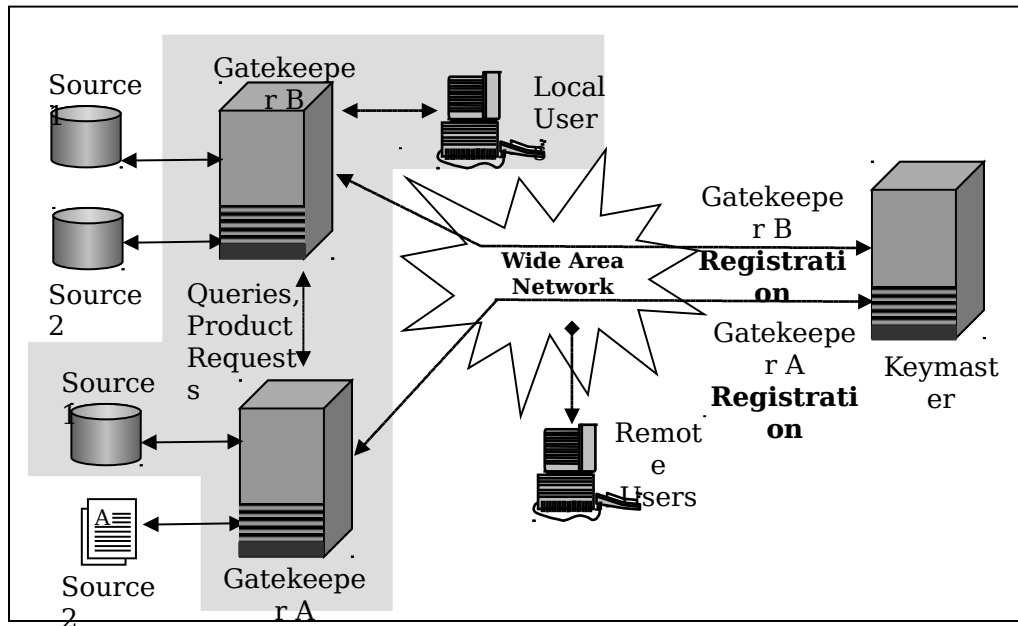
FIRES

Information Extraction Tool (IET)

Moving Target Indicator (MTIX) (2.0)

Web Link

KEYMASTER ARCHITECTURE



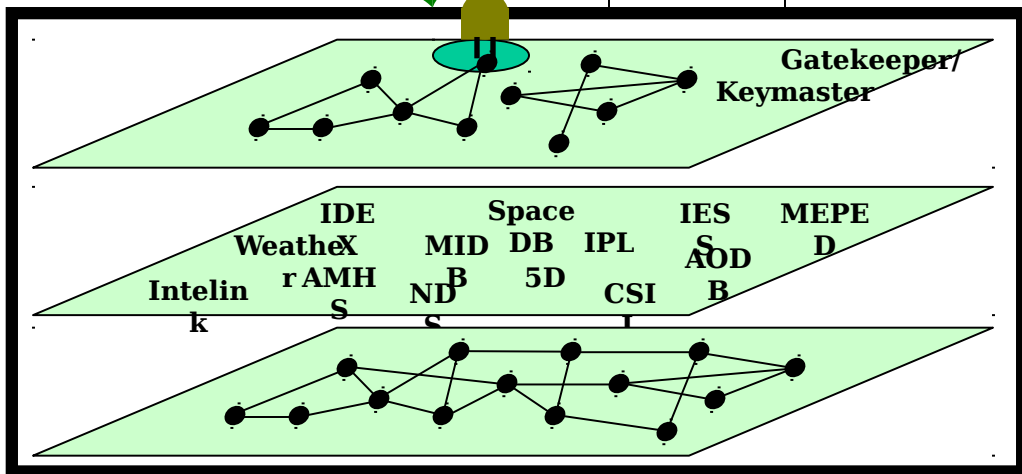
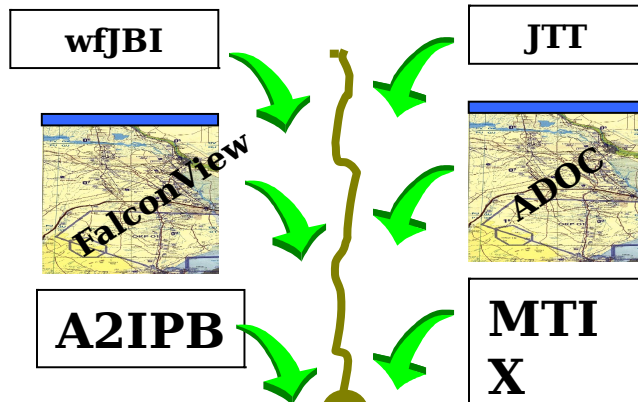
Registration

- Each Gatekeeper registers with the Keymaster for remote connectivity
- Keymaster distributes global maps and updates
- Based on Digital Certificate Technology (X.509)

Requests

- Gatekeepers use each of their Digital Certificates to authenticate each other before allowing request to be initiated
- Protects each Gatekeeper against other potential non-participating Gatekeepers
- After authentication, request is processed by each Gatekeeper

DATA ACCESS & SECURITY INFRASTRUCTURE



Multi-Tier Architecture

Applications

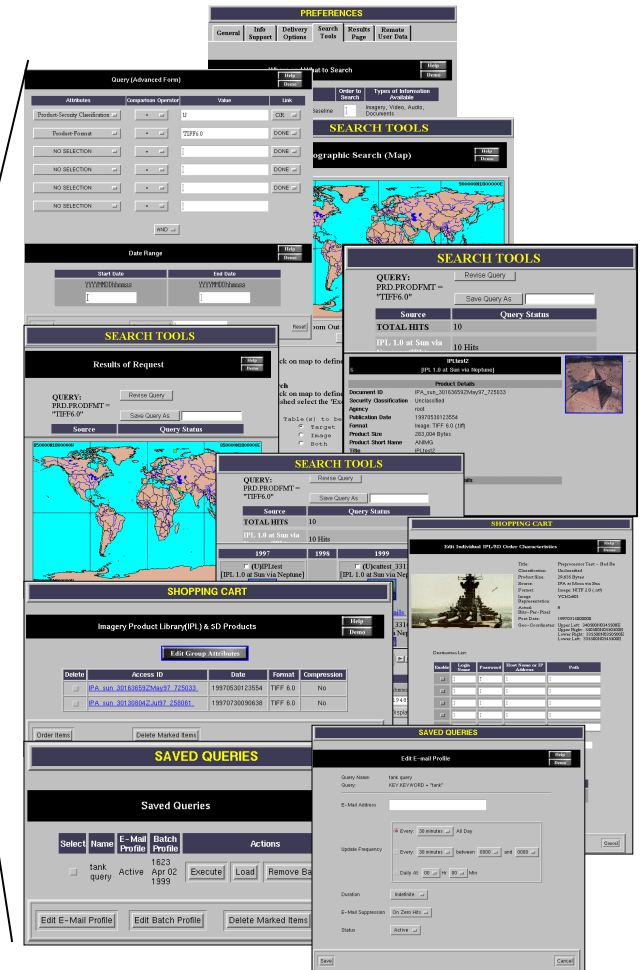
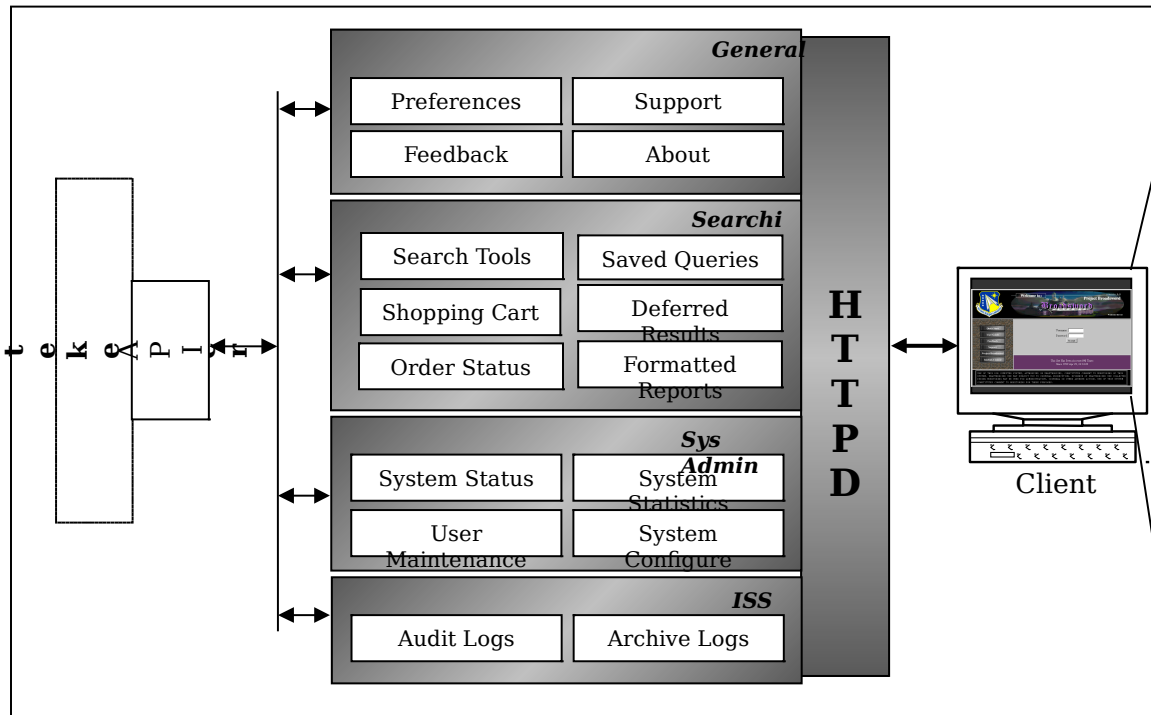
Security and Data Sources

Communications

CLIENT FUNCTIONALITY

- General User Search, Navigate, Find and Acquire Information
 - Keyword, Query, Geospatial Requests
 - User Tailorable Returns
 - Attributes and Format
 - Batched Queries
 - Email Notification of New Products (IPL/5D)
- Catalog
- Administration
- ISSO

BROADSWORD V2.0 - THE CLIENT



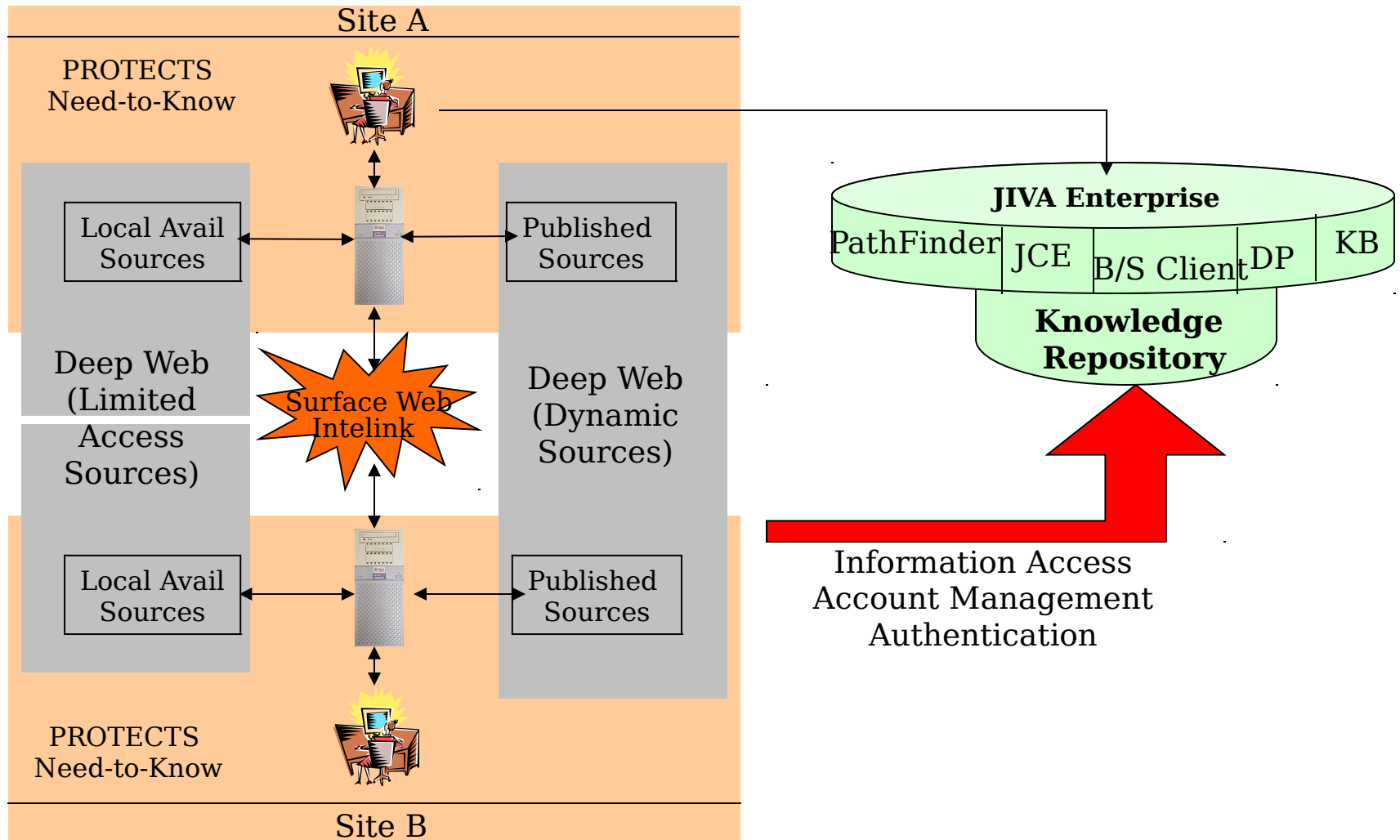
USERS OF BROADSWORD

Support For:

JIVA (JADE)	Access to sources/Security Architecture
IPL Client	Access to 5D, IPL 1.0, IPL 2.1, IES User Interface
PCI3	Access to sources/Generation of MIDB Extracts
A2IPB	Access to sources
FIRES	Architecture (availability to many User Interface
MTIX	Architecture (availability to many

JIVA

Building an Information Enterprise Architecture



PCI3 SUPPORT

FORMATTED REPORTS		
AFMSS	PCID	
AFMSS Report Generator		
Print		
Source		
<input checked="" type="checkbox"/> MESS at TCOM as ACCOBY <input type="checkbox"/> MESS Source at AFPL <input type="checkbox"/> MESS at Thomson as XOY		
Request		
<input checked="" type="checkbox"/> All	<input type="checkbox"/> Air Order of Battle (AOB) <input type="checkbox"/> Air Order of Battle - Fighters <input type="checkbox"/> Air Order of Battle - Bombers <input type="checkbox"/> Air Order of Battle - Helos (AO) <input type="checkbox"/> Air Order of Battle - Other AOB <input type="checkbox"/> Electronic Order of Battle (EOB) <input type="checkbox"/> Electronic Order of Battle - EAB <input type="checkbox"/> Electronic Order of Battle - OCB <input type="checkbox"/> Electronic Order of Battle - TAD <input type="checkbox"/> Ground Order of Battle (GOB) <input type="checkbox"/> Mobile Order of Battle (MOB) <input type="checkbox"/> Many Order of Battle (MOB) <input type="checkbox"/> Many Order of Battle (COB)	
Filter:		
<input type="checkbox"/>	Crosscut Thruout only <input type="checkbox"/>	
Report Type: <input checked="" type="checkbox"/> MESS		
Enter Enter Geographic Coordinates or Select a		
Lower Left Coordinate:		
Upper Right Coordinate:		
Country Code		
	<input checked="" type="checkbox"/> Afghanistan (A) <input type="checkbox"/> Albania (AL) <input type="checkbox"/> Algeria (AG) <input type="checkbox"/> American Samoa (AS)	
Destination List		
Enable	Login Name	Password
<input checked="" type="checkbox"/>	downarrow	*****
<input type="checkbox"/>	downarrow	*****
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
Destination Name: _____		
Order Report		

FORMATTED REPORTS				
AFMSS	PCID			
PCID Report Generator				
Print				
Source				
<input checked="" type="checkbox"/> MESS at TCOM as ACCOBY <input type="checkbox"/> MESS Source at AFPL <input type="checkbox"/> MESS at Thomson as XOY				
Request	Order of Battle Type	Excluded Codes		
<input type="checkbox"/> All Order of Battle (AOB)	(B100) AVIATION HEADQUARTERS (B100X) AIR TRAINING COMMAND HEADQUARTERS AND SCHOOLS (B200) AIR-BASED TECHNICAL SUPPORT			
<input type="checkbox"/> Electronic	(E000) AIR DEFENSE HEADQUARTERS, GENERAL (E010) SPACE TO AIR MISSILE LAUNCH (E020) GROUND SURFACE TO SURFACE MISSILE LAUNCH, FIRED, TYPE I SITES (E030) DEFENSIVE MISSILE SUPPORT FACILITIES, UNKNOWN (E040) DEFENSIVE MISSILE SUPPORT FACILITIES, DIRECT SUPPORT (E050) DEFENSIVE MISSILE SUPPORT FACILITIES, SUPPORT MAINTENANCE, CHECKOUT AND REPAIR			
<input type="checkbox"/> Ground Order of Battle (GOB)	(G000) RADAR FACILITY, GENERAL (G010) RADAR FACILITY, EARLY WARNING, TRACKING AND/OR ACQUISITION (G020) RADAR FACILITY, CONTROL OF AIR-TARGET INTERCEPT (G030) RADAR FACILITY, MISSILE CONTROL, GENERAL (G040) RADAR FACILITY, MISSILE CONTROL, SURFACE TO SURFACE MISSILE (SSM)			
<input type="checkbox"/> Ground Order of Battle (COB)	(G050) GROUND SURFACE TO SURFACE MISSILE LAUNCH, FIRED, GENERAL (G060) GROUND SURFACE TO SURFACE MISSILE LAUNCH, FIRED, TYPE I SITES (G070) GROUND SURFACE TO SURFACE MISSILE LAUNCH, FIRED, TYPE II SITES (G080) GROUND SURFACE TO SURFACE MISSILE LAUNCH, FIRED, TYPE IV SITES (G090) GROUND SURFACE TO SURFACE MISSILE LAUNCH, FIRED, TYPE V SITES			
<input type="checkbox"/> Many Order of Battle (MOB)	(M010) NAVAL SURFACE TO SURFACE MISSILE LAUNCH, FIRED, GENERAL (M020) NAVAL SURFACE TO SURFACE MISSILE LAUNCH, FIRED, TYPE I SITES (M030) NAVAL SURFACE TO SURFACE MISSILE LAUNCH, FIRED, TYPE II SITES (M040) NAVAL SURFACE TO SURFACE MISSILE LAUNCH, FIRED, TYPE III SITES (M050) NAVAL SURFACE TO SURFACE MISSILE LAUNCH, FIRED, TYPE IV SITES (M060) NAVAL SURFACE TO SURFACE MISSILE LAUNCH, FIRED, TYPE V SITES			
<input type="checkbox"/> Space Order of Battle (SOB)	(S000) SCIENTIFIC OBSERVATIONS AND RECORDS STATIONS, ASTRONOMICAL OBSERVATIONS (S010) SPACE SYSTEMS PRODUCTION, GENERAL (S020) SPACE LAUNCH VEHICLES PRODUCTION, GENERAL (S030) SPACE LAUNCH VEHICLES, AIRFRAME PRODUCTION OR ASSEMBLY (S040) SPACE LAUNCH VEHICLES, ENGINE OR PROPULSION SYSTEMS PRODUCTION			
<input type="checkbox"/> Strategic Missile Order of Battle (SMOB)	(S050) STRATEGIC SURFACE TO SURFACE MISSILE HEADQUARTERS (S060) SURFACE TO SURFACE MISSILE PLANT, FIRED, GENERAL (S070) SURFACE TO SURFACE MISSILE LAUNCH, FIRED, TYPE I SITES (S080) SURFACE TO SURFACE MISSILE LAUNCH, FIRED, TYPE II SITES (S090) SURFACE TO SURFACE MISSILE LAUNCH, FIRED, TYPE III SITES			
Additional Category Codes to Include: (Crosses separate & list) _____				
Select or Enter the Desired Country Code(s)				
Country Code: <input checked="" type="checkbox"/> Afghanistan (A)				
<input type="checkbox"/> Albania (AL)				
<input type="checkbox"/> Algeria (AG)				
<input type="checkbox"/> American Samoa (AS)				
Other Country Code: (Crosses Separate & List) _____				
Transmission List				
Enable	Login Name	Password	Host Name or IP Address	Port
<input checked="" type="checkbox"/>	downarrow	*****	*****	****
<input type="checkbox"/>	downarrow	*****	*****	****
<input type="checkbox"/>	*****	*****	*****	****
<input type="checkbox"/>	*****	*****	*****	****
<input type="checkbox"/>	*****	*****	*****	****
<input type="checkbox"/>	*****	*****	*****	****
Destination Name: _____				
Order Report				

Broadsword Client

Generate Order of Battle Extract and
send to AFMSS (MIDB, MIIDS'93)



Air Force Mission Support System

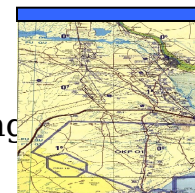
Generate Order of Battle Extract and
send to ADOCS (PCI3 Fmt)



Automated Deep Operations Coordination System

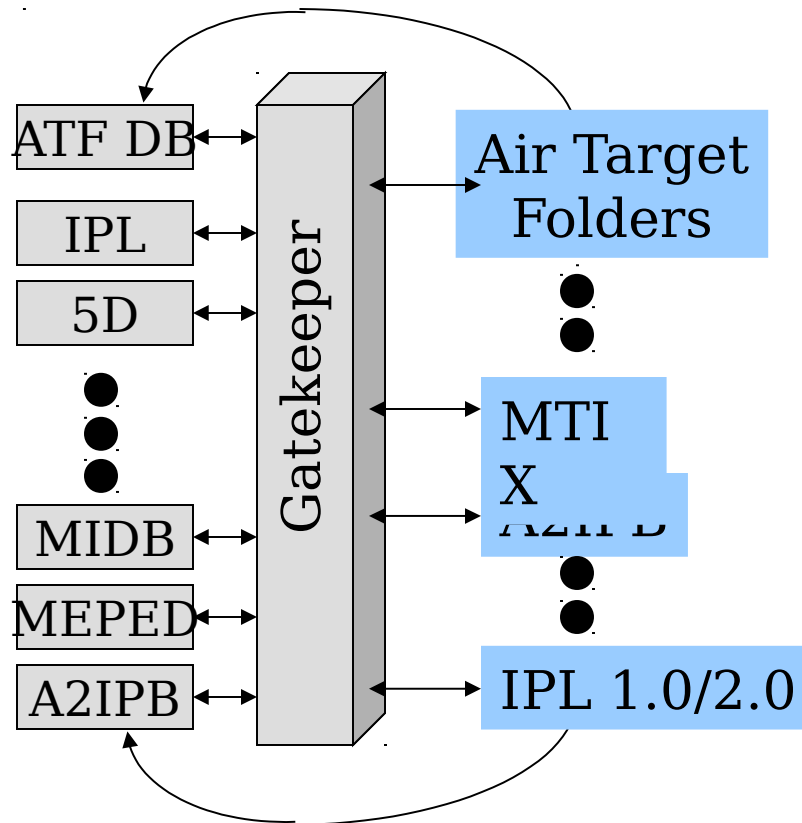
PC-I3 Tools

Threat File



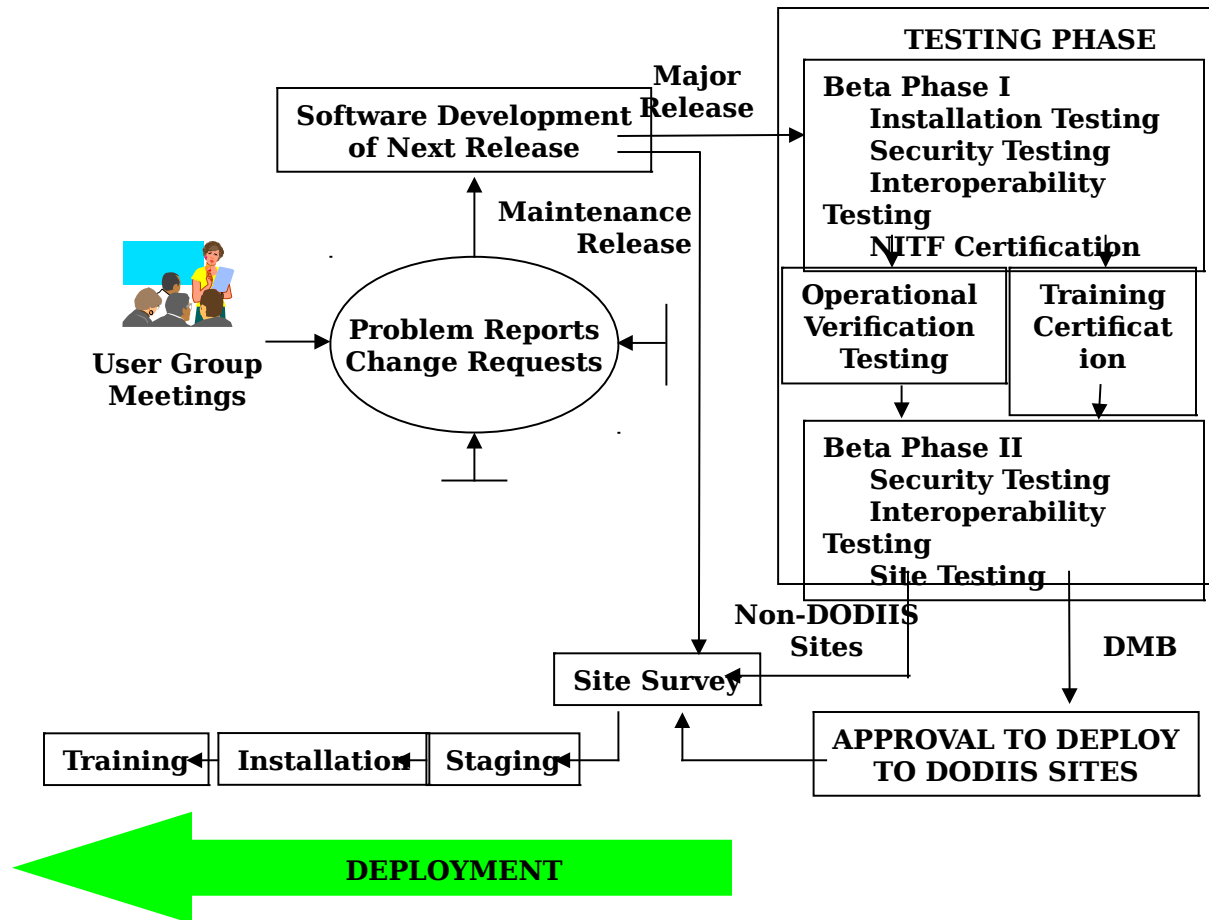
FalconView Mission Planning

SUPPORT TO PRODUCTION



- Use infrastructure to gather information
- Build Product
- Store Product in Production Data Base
- Products become available to infrastructure users

DEVELOPMENT/DEPLOYMENT PROCESS



Players

JITF

JITC

497IG/DIA Security

NIMA College

DIA College

DOCUMENTATION

Version 2.0

- Security Documents (DCID 1/16, DIAM 504)
 - Concept Of Operations
 - Requirements/Analysis
 - Certification Test Plan
 - Certification Test Procedures
 - Security Test Results Template
- Functional Description
- Functional Requirements Document (FRD)
- Gatekeeper ICD
- Training Management Plan
- Test Procedures
- System Installation and Maintenance Guide
 - Site Acceptance Test Procedures
- On-Line User's Guide
- On-Line Computer Based Training (CBT)

Version 3.0

- Security Document (DCID 6/3)
 - SSAA
 - Appendix A: Security Requirements Ma
 - Appendix B: Test Procedures
- Gatekeeper ICD
- Training Management Plan
- Test Procedures
- System Installation and Maintenance Guide
 - Site Acceptance Test Procedures
- On-Line User's Guide
- On-Line Computer Based Training (CBT)



Visit our Web Site:

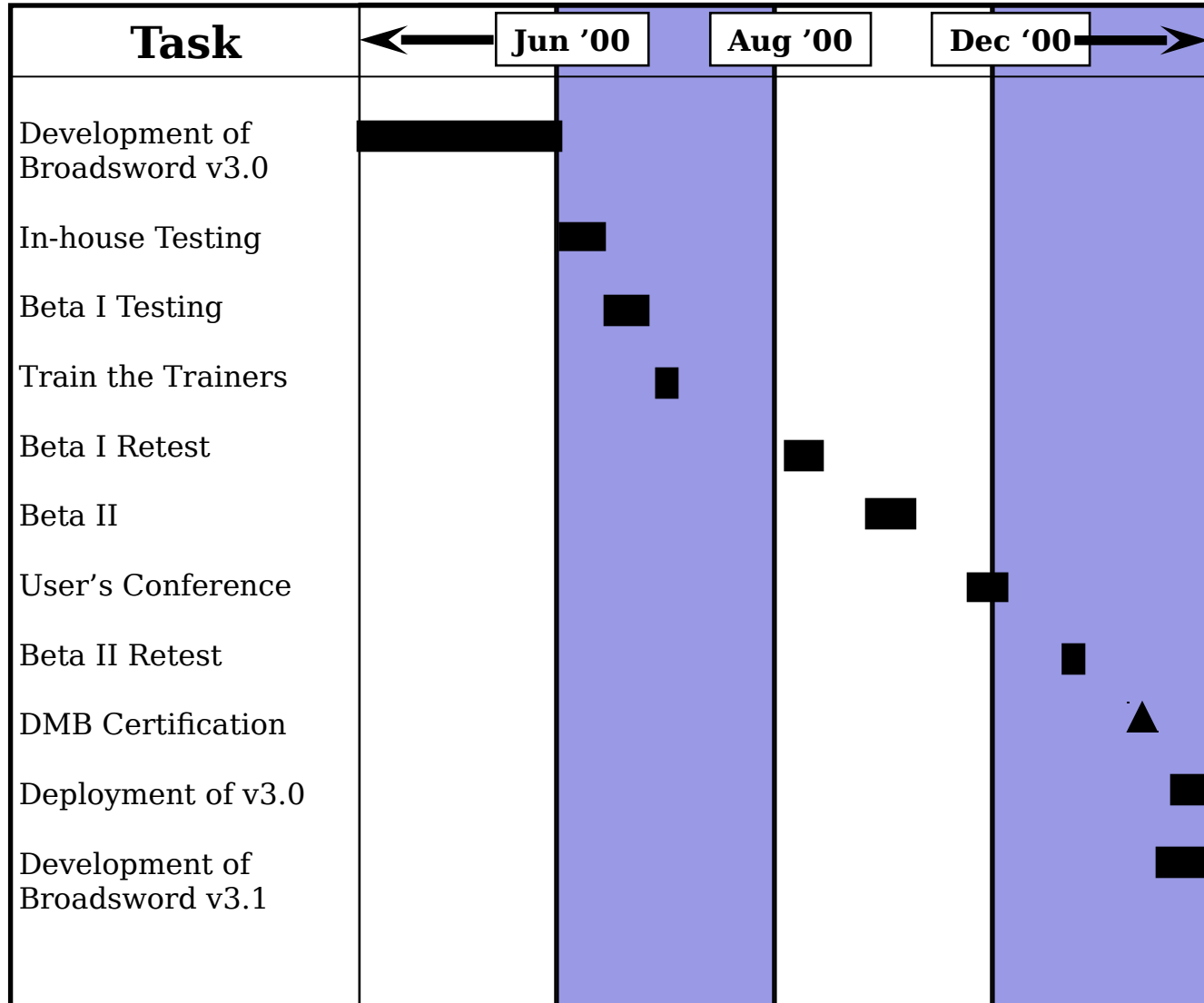
Internet: <http://www.rl.af.mil/bsword>
Collateral: <http://199.56.91.107:8080/bsword>
Intelink: <http://web1.rome.ic.gov/bsword>

STANDALONE DEPLOYMENTS/STATUS

Version 2.0

ACC - PCI3 Sites	AC2ISR Sites	JIVA Sites	Other Sites
<div> <div>●</div> ACC/XOIY <div>●</div> AFRC <div> <div>●</div> <div>●</div> </div> ANG East <div>●</div> ANG West <div>●</div> Barksdale <div> <div>●</div> <div>●</div> </div> Shaw <div> <div>●</div> <div>●</div> </div> Davis Monthan <div> <div>●</div> <div>●</div> </div> JFCOM <div> <div>●</div> <div>●</div> </div> NELLIS <div> <div>●</div> <div>●</div> </div> NOSC <div>●</div> PACAF <div>●</div> SWA </div> <div> <div>5</div> <div>12</div> </div>	<div> <div>●</div> 1AF <div>●</div> AFSOC <div>●</div> AFSPACE <div>●</div> CAOC (Aviano) <div>●</div> CAOC (Vicenza) <div>●</div> JTF - NW <div>●</div> NORAD </div> <div> <div>7</div> </div>	<div> <div>●</div> AFMIC <div> <div>●</div> <div>●</div> </div> CENTCOM <div>●</div> DIA <div>●</div> EUCOM (32nd) <div>●</div> EUCOM (66 MI) <div>●</div> EUCOM (JAC) <div> <div>●</div> <div>●</div> </div> JFCOM <div> <div>●</div> <div>●</div> </div> MSIC <div>●</div> NAIC <div>●</div> NMIC <div>●</div> NGIC <div>●</div> ONI <div> <div>●</div> <div>●</div> </div> PACOM (PASS-H) <div>●</div> Pentagon <div>●</div> SOCOM <div>●</div> SOUTHCOM <div>●</div> STRATCOM <div>●</div> USFK <div>●</div> USSPACECOM <div>●</div> USTRANSCOM </div> <div> <div>20</div> <div>16</div> </div>	<div> <div>●</div> 5AF <div>●</div> 7AF <div>●</div> 11AF <div>●</div> 17TRG <div>●</div> 23AF <div>●</div> 480IG <div>●</div> 497IG </div> <div> <div>6</div> <div>6</div> </div>
<div> <div> <div>●</div> High Side <div>●</div> Low Side </div> <div> <div>○</div> Operational <div>○</div> TBD </div> </div>			
<div> <div>Totals:</div> <div> <div>31</div> <div>41</div> </div> <div> <div>●</div> <div>●</div> </div> </div>			

SCHEDULE



STATUS/SCHEDULE

Train the Trainers (17-21 July)
Major recommendations

BETA I Testing
JITF - 4 CAT 1s
Security - 4 CAT 1s
JITC - OK

Retested 8-9 August 2000
Security issues resolved - received IATO for Standalone

Marine Exercise
Camp Pendleton/Yuma (Shopping Cart/Ordering, Chipping)

Beta II Testing 16 - 27 October 2000
480IG - 1 Finding
JFIC - 4 Findings
Security - 2 CAT II - received IATO to field
JITC - No Findings

Plan for Jan DMB Certification to Field

WHERE ARE WE REALLY?

- Correcting major findings from BETA II Testing
- Stability still a concern
 - IE most stable
 - Netscape on PC: Found major problem concerning random new line
 - Netscape on UNIX: Inconsistent in stability
- What are we doing?
 - Dyna Libraries now support most of the menu and bottom buttons
 - Have tested these new libraries - Substantial increase in stability on all platforms (uses MUCH less JavaScript)
 - Currently replacing old functions with new ones - Done by User's Conference and release of 3.0

What's in Version 3.1

Integration of Trusted Transfer Agent

Client Performance Improvements

YOUR CALL

The Future is Almost Here!

See and touch Broadsword 3.0

Also have:

TTA

ISSE Guard

AFDI

MTIX (Thursday Only)

IET

FIRES

located in the demonstration room, all day Tuesday - Thursday

SUMMARY

- Evolutionary Approach (Spiral Development)
Implementing New Technologies and Performance
Improvements as Risks & Capabilities Allow.
- Bringing BOTH INTEL and C2 together into a single multi-tier
architecture. Both sides backing and supporting a single
effort.
- Broadsword is a framework. It is a beginning. CANNOT BE
CONTENT WITH WHAT WE HAVE, ALWAYS CAN DO
BETTER!